

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A method of separating a compound of interest from a mixture, the method comprising the steps of:

(a) determining a static correlation function between retention time on an analytical HPLC column under a first set of conditions and retention time on a preparative scale HPLC column under a second set of conditions;

~~(a)~~(b) providing a mixture containing a compound of interest, the compound of interest having an expected mass;

~~(b)~~(c) subjecting a portion of the mixture to a separation using an the analytical HPLC column under the first set of conditions to produce an eluate stream;

~~(c)~~(d) analyzing the eluate stream using a mass spectrometer to determine a retention time of the compound of interest on the analytical HPLC column;

~~(d)~~(e) predicting a retention time of the compound of interest ~~from a~~ on the preparative scale HPLC column using ~~a predetermined~~ the static correlation function ~~between retention time on the analytical HPLC column and retention time on the preparative scale HPLC column~~ along with the determined retention time of the compound on the analytical HPLC column;

~~(e)~~(f) selecting a window of time around the predicted retention time within which the compound is expected to elute;

~~(f)~~(g) subjecting all or a portion of the remaining mixture to a separation using a preparative scale HPLC system comprising the preparative scale HPLC column, an HPLC compatible detector, and a fraction collector, the separation carried out under the second set of conditions; and

~~(g)~~(h) collecting at least a portion of the compound of interest using the fraction collector, the fraction collector being activated upon detection of a peak by the HPLC compatible detector within the selected window of time.

Claim 2 (Original): The method of claim 1 wherein the HPLC detector is selected from the group consisting of UV detector, ELSD, refractive index detector, and chemiluminescent nitrogen detector.

Claim 3 (Original): The method of claim 1 wherein data collected from the mass spectrometer consists essentially of the expected mass of the compound of interest and the retention time of the compound on the analytical HPLC column.

Claim 4 (Original): The method of claim 1 wherein a UV chromatogram is not generated from the separation using the analytical HPLC column.

Claim 5 (Currently amended): A method of separating a compound of interest from a mixture, the method comprising the steps of:

(a) determining a static correlation function between retention time on an analytical HPLC column under a first set of conditions and retention time on a preparative scale HPLC column under a second set of conditions;

~~(a)~~(b) providing a mixture containing a compound of interest, the compound of interest having an expected mass;

~~(b)~~(c) subjecting a portion of the mixture to a separation using an ~~the~~ analytical HPLC column under the first set of conditions to produce an eluate stream;

~~(c)~~(d) analyzing the eluate stream using a mass spectrometer to determine a retention time of the compound of interest on the analytical HPLC column;

~~(d)~~(e) predicting a retention time of the compound of interest ~~from a~~ on the preparative scale HPLC column using ~~a predetermined~~ the static correlation function ~~between retention time on the analytical HPLC column and retention time on the preparative scale HPLC column~~ along with the determined retention time of the compound on the analytical HPLC column;

~~(e)~~(f) selecting a window of time around the predicted retention time within which the compound is expected to elute;

~~(f)~~(g) subjecting all or a portion of the remaining mixture to a separation using a preparative scale HPLC system comprising the preparative scale HPLC column, the separation carried out under the second set of conditions; and

~~(g)~~(h) collecting at least a portion of the compound of interest using the selected window of time.

Claims 6-8 (Canceled).

Claim 9 (Original): The method of claim 5 wherein the preparative scale HPLC system includes an HPLC compatible detector.

Claim 10 (Original): The method of claim 9 wherein the detector is selected from the group consisting of UV detector, ELSD, refractive index detector, and chemiluminescent nitrogen detector.

Claim 11 (Original): The method of claim 5 wherein data collected from the mass spectrometer consists essentially of the expected mass of the compound of interest and the retention time of the compound on the analytical HPLC column.

Claim 12 (Original): The method of claim 5 wherein a UV chromatogram is not generated from the separation using the analytical HPLC column.

Claim 13 (Canceled).

Claim 14 (Original): The method of claim 9 wherein the HPLC system includes a fraction collector that collects at least a portion of the compound of interest, the fraction collector being activated upon detection of a peak by the HPLC compatible detector within the predicted elution time.

Claim 15 (Original): The method of claim 5 wherein the preparative scale HPLC system does not include an HPLC compatible detector.

Claim 16 (Currently amended): The method of claim 5 wherein the collection step ~~(g)~~ (h) is performed without the use of an HPLC compatible detector.

Claim 17 (Currently amended): A method of separating compounds of interest present in a plurality of reaction product mixtures, the method comprising the steps of:

(a) determining a static correlation function between retention time on an analytical HPLC column under a first set of conditions and retention time on a preparative scale HPLC column under a second set of conditions;

~~(a)~~(b) providing a plurality of reaction product mixtures, each mixture expected to contain a compound of interest having an expected mass;

~~(b)~~(c) separately subjecting a portion of each reaction product mixture to a separation using an the analytical HPLC column under the first set of conditions to produce a plurality of eluate streams;

~~(c)~~(d) analyzing each eluate stream using a mass spectrometer to verify that the eluate stream contains a compound with an expected mass and to determine a retention time of each compound with an expected mass on the analytical HPLC column;

~~(d)~~(e) predicting a retention time of each compound with an expected mass on a the preparative scale HPLC column using a predetermined the static correlation function between retention time on the analytical HPLC column and retention time on the preparative scale HPLC column along with the determined retention time of each compound on the analytical HPLC column;

~~(e)~~(f) selecting a window of time around each predicted retention time within which each compound with an expected mass is expected to elute;

~~(f)~~(g) separately subjecting all or a portion of each remaining mixture verified to contain a compound with the expected mass to a separation using a preparative scale HPLC system comprising the preparative scale HPLC column and a fraction collector, the separation carried out under the second set of conditions; and

~~(g)~~(h) separately collecting at least a portion of each compound verified to be present with the fraction collector using the selected window of time for each compound.

Claim 18 (Currently amended): The method of claim 17 wherein at least two eluate streams produced in step ~~(b)~~ (c) are combined for analysis in step ~~(c)~~ (d) in a common mass spectrometer, the at least two eluate streams being chosen such that

the expected compounds of interest in the streams have different expected masses that are distinguishable by mass spectrometry.

Claim 19 (Currently amended): The method of claim 17 wherein at least two eluate streams produced in step ~~(b)~~ (c) are combined for analysis in step ~~(e)~~ (d) in a common mass spectrometer, at least one of the eluate streams being mechanically coded such that the expected compounds of interest in the streams are distinguishable by mass spectrometry.

Claims 20-21 (Canceled).

Claim 22 (Original): The method of claim 17 further comprising determining the purity of the compound of interest immediately following the separation using the analytical HPLC column.

Claim 23 (Original): The method of claim 17 wherein the preparative scale HPLC system includes an HPLC compatible detector.

Claim 24 (Original): The method of claim 23 wherein the detector is selected from the group consisting of UV detector, ELSD, refractive index detector, and chemiluminescent nitrogen detector.

Claim 25 (Original): The method of claim 17 wherein a UV chromatogram is not generated from the separation using the analytical HPLC column.

Claims 26-28 (Canceled).

Claim 29 (Previously presented): The method of claim 23 wherein the fraction collector is activated upon detection of a peak by the HPLC compatible detector within the selected window of time.

Claims 30-38 (Canceled).

Claim 39. (Currently amended) The method of claim 1 wherein ~~the static correlation function is predetermined by step (a) comprises~~ determining the retention time of each of two or more test compounds on the analytical HPLC column under the first set of conditions and on the preparative HPLC column under the second set of conditions and correlating the retention times on the analytical HPLC column to the retention times on the preparative scale HPLC column.

Claim 40. (Currently amended) The method of claim 5 wherein ~~the static correlation function is predetermined by step (a) comprises~~ determining the retention time of each of two or test more compounds on the analytical HPLC column under the first set of conditions and on the preparative HPLC column under the second set of conditions and correlating the retention times on the analytical HPLC column to the retention times on the preparative scale HPLC column.

Claim 41. (Currently amended) The method of claim 17 wherein ~~the static correlation function is predetermined by step (a) comprises~~ determining the retention time of each of two or test more compounds on the analytical HPLC column under the first set of conditions and on the preparative HPLC column under the second set of conditions and correlating the retention times on the analytical HPLC column to the retention times on the preparative scale HPLC column.